ANALYSIS ON AD HOC NETWORKS FOR MULTIPATH ROUTING

Analysis on Ad Hoc Networks for Multipath Routing

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Abstract – In this paper we will confer about ad hoc networks for multipath routing. An ad hoc network is a compilation of wireless mobile nodes vigorously forming a temporary network without the use of any existing network infrastructure or centralized administration.

Keywords: Mobile ad hoc networks, Node, Routing, Network, Protocol

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INTRODUCTION

Mobile node operates not only as a host but also as a router, forwarding packets for other mobile nodes in the network that may not be within direct wireless transmission range of each other. Each node participates in an ad hoc routing protocol that allows it to discover "multi-hop" paths through the network to any other node.

MULTIPATH ROUTING PROTOCOLS

- **Table Driven Routing Protocols**

In Table-driven routing protocols each node maintains one or more tables containing routing information to every other node in the network. All nodes update these tables so as to maintain a consistent and up-to-date view of the network. Because of multiple and diverse ad hoc protocols there is an obvious need for a general taxonomy to classify protocols considered. Traditional classification is to divide protocols to table-driven and to source-initiated on-demand driven protocols [1].

- **Dynamic Destination-Sequenced Distance-Vector Routing Protocol**

The Destination-Sequenced Distance-Vector (DSDV) Routing Algorithm [2] is based on the idea of the classical Bellman-Ford Routing Algorithm with certain improvements.

- **The Wireless Routing Protocol (WRP)**

The Wireless Routing Protocol (WRP) [3] is a table-based distance-vector routing protocol. Each node in the network maintains a Distance table, a Routing table, a Link-Cost table and a Message Retransmission list.

The Wireless Routing Protocol (WRP) [4] is a proactive, destination-based protocol. WRP belong to the class of path finding algorithms.

- **Global State Routing**

Global State Routing (GSR) [5] is similar to DSDV. It takes the idea of link state routing but improves it by avoiding flooding of routing messages.

Global State Routing (GSR) [6] is a uniform, topology oriented, proactive routing protocol. It is a variant of traditional link-state protocols; in which each node send slink-state information to every node in the network each time its connectivity changes.

- **Fisheye State Routing**

Fisheye State Routing (FSR) [7] is an improvement of GSR. The large size of update messages in GSR wastes a considerable amount of network bandwidth. In FSR, each update message does not contain information about all nodes. Instead, it exchanges information about closer nodes more frequently than it does about farther nodes thus reducing the update message size.

CONCLUSION:

In this paper we provide descriptions of several routing protocol proposed for ad hoc mobile networks. We analyzed that any particular algorithm or class of algorithm is not the best for all scenarios; each protocol has specific advantages and disadvantages. Ad hoc mobile networks is rapidly growing and changing, and while there are still many challenges that need to be met, it is likely that such networks will see widespread.

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